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THE BOULDER BEHAVIORIST

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Deceleration of Severe Aggressive Behavior Via Overcorrection and Required Relaxation

by Greg Anderson

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METHOD

Subject: Chuck is a 27 year old male diagnosed as moderately retarded due to congenital microcephaly - epilepsy - major motor - behavioral disorder. Chuck has been institutionalized since he was eight years old. During the time he has been institutionalized, Chuck's parents have taken an active interest in his welfare. They have taken him home frequently, written letters to him often, and have diligently followed the programs and services provided him over the years. Also relative to other residents at BRS&H, Chuck is very verbal and communicates with various residents and employees. Because of his functioning level and verbal abilities, Chuck enjoys a richer environment than most residents and is quite active.

Despite this environment, Chuck has a long history of severe aggressive behavior. In the past, this behavior was described as violently aggressive and was directed toward residents, trainers, service workers, medical staff, and his parents. The majority of these incidents occurred with little or no observable provocation. It was the opinion of the medical staff in early 1976, that Chuck's aggressive behavior was caused by his microcephaly. This condition is characterized by the head or the cranium capacity being abnormally small. Because of these aggressive outbursts, Chuck's behavior had to be taken into consideration when planning any cottage activity, required an inordinant amount of staff time to monitor Chuck, and prohibited further training for him in many areas.

In attempting to change the behavior, various methods were tried before implementation of the procedure described below. These included a simple token economy, based on compliant behavior; seclusion time out, during which Chuck was sent to his room for a minimum of one hour or until his behavior became appropriate; and finally almost constant supervision during which time the staff immediately separated Chuck from anyone or anything that appeared to be upsetting him. In addition to the above contingencies placed on Chuck's aggressive behaviors, he also received a variety of chemical restraints to control his behavior. These included Thorazine, Bicillin, Phenobarbitol, Navane, Haldol, Serentil, Tegretol, Loxitane, and Mellaril. The doses of Mellaril given Chuck from March 27, 1975, to March 1, 1976, increased from 50 mg b.i.d. to 150 mg t.i.d. In January of 1976, it was requested that Chuck be included in the Intensive Training Unit which specializes in behaviors that cannot be handled in the cottages. Before the transfer was finalized, the following procedure was written by Pat Friman, HA IV, and Gene Haire, HA IV, and implemented in April of 1976.

PROCEDURE

Baseline: Data taken for 14 weeks prior to the implementation of the following procedure, during which time

3 0864 1004 9980 8

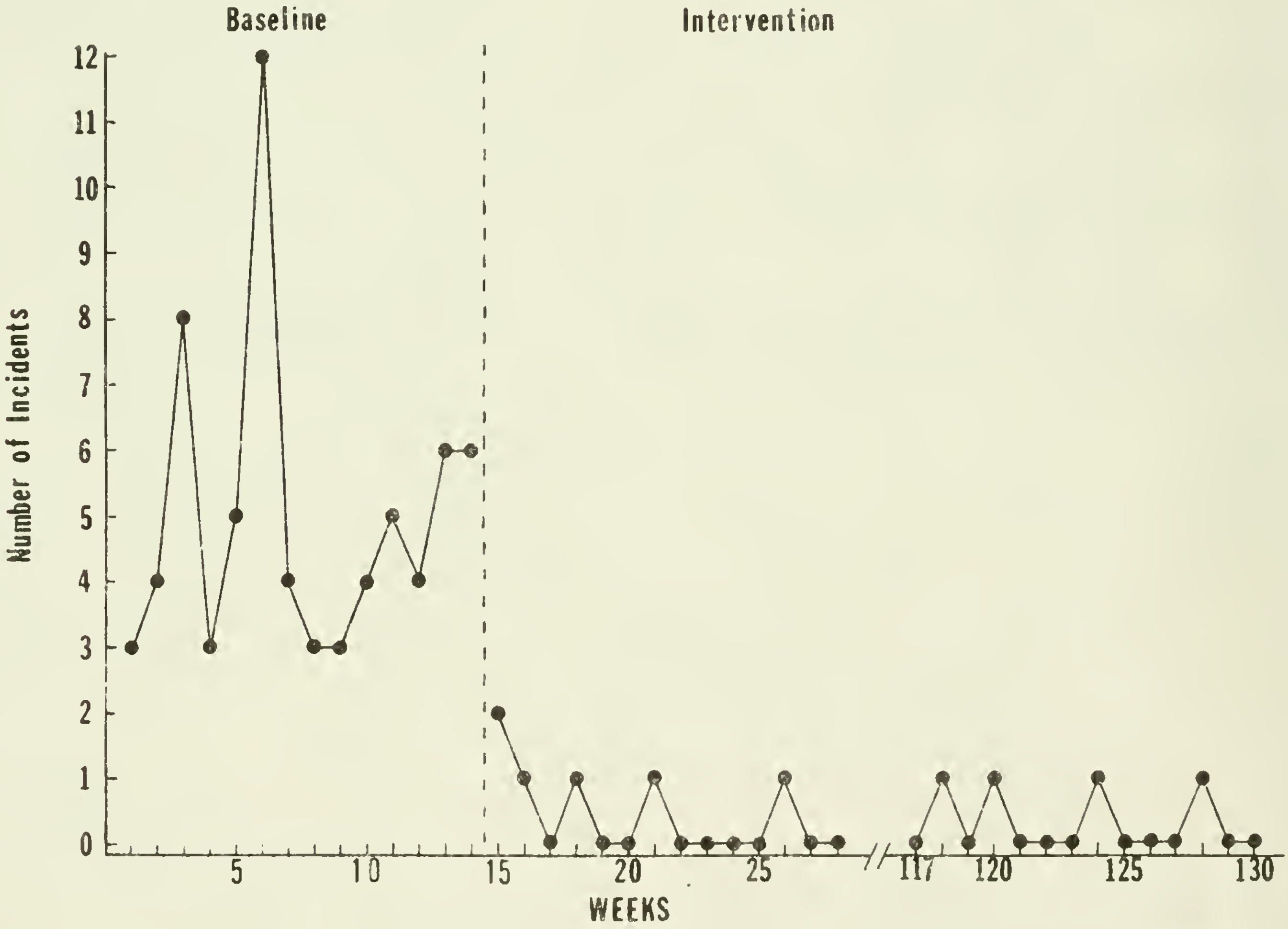
Chuck was receiving close supervision, show a range of 3 to 12 aggressive incidents per week with an average of 5 incidents per week. This baseline was taken from January, 1976, to mid April of 1976.

The intervention strategy consisted of an overcorrection procedure involving restitution, required relaxation, and positive practice. The restitution phase [redacted] after Chuck exhibited aggressive [redacted], defined as punc[redacted]ting, or shoving residents [redacted] Chuck was made to sit in a chair with one trainer standing behind the chair immobilizing his arms, and one trainer in front of Chuck immobilizing his legs. The trainer in front of Chuck would then have him apologize compliantly for 15 consecutive minutes. (Example: "Are you sorry?", "What did you do?", "Will you do it again?", etc.) Chuck was required to give appropriate answers to these questions and to shake hands with the trainers and the person he aggressed against.

The required relaxation phase followed. After the restitution-apology training phase was implemented for 15 minutes, Chuck was taken to his room and required to lie quietly for 10 consecutive minutes without threatening or attempting aggression.

The last phase of the procedure was positive practice. After the 10 minutes of required relaxation, the situation in which Chuck became aggressive was redesigned. Chuck was then required to practice compliantly, the appropriate response for 15 consecutive minutes.

Results: As the graph shows the average number of aggressive incidents fell from an average of 5 per week during the 14 weeks of baseline to an average of 0.5 per week for the 14 weeks immediately following intervention.



The program had an immediate effect and the results were maintained. This program is still being used for Chuck and data indicate Chuck has averaged only 0.29 aggressive incidents per week during the 14 week period from May 1, 1978, to August 6, 1978, a total time span of 27 months intervention.

DISCUSSION

The intervention procedures used in implementing this program dramatically changed Chuck's aggressive behavior and have allowed him the opportunity for a more normal life. The change in Chuck's behavior has resulted in more services being provided to him, staff members seeking him out for special trips off BRS&H grounds, his active participation in the Special Olympics, and in a better relationship with his parents. Early in 1978, during the restitution phase of the program, trainers began to emphasize to Chuck that should he be in a situation which is upsetting to him, the appropriate thing to do would be to walk away and/or inform staff to deal with the situation. Since this was started, Chuck has left the situation that upset him (even on occasions when some other residents have hit him) and reported it to the staff. Especially encouraging was the report from his parents that while at home for a weekend, Chuck became involved in a stressful situation, left the house, and walked around the block until he became calmer.

Another positive result of Chuck's improvement has been the corresponding change in medication he receives. From the high of 150 mg t.i.d. in March or 1976, Chuck's dosages of Mellaril have been reduced to ½ of that, 75 mg t.i.d.

Even though there has been a marked reduction in Chuck's aggressive behavior, the memory of his past behavior and the occasional present incidents that still occur continue to prevent Chuck from being placed in the community. It is hoped that through continued implementation of this program improvement in Chuck's general environment, his aggressive behaviors will be further reduced to the point where he may be placed in a community environment.

Where to Now, Recreation?

By Linda A. Poniktera,
Recreation Therapist

Perhaps the most objective method of assessing the extent to which the BRS&H Recreation Department meets the needs of the residents is to scrutinize its success in meeting Individual Habilitation Planning (IHP) Committee recommendations for individual residents. In order to determine the status of met and unmet needs in relation to recreation services, an informal review of completed IHP Committee notes from the period of September 1977 through February 1978, was conducted, involving about 60 individual staffings. In nearly every case reviewed, the client was listed as being in need of at least some services from Recreation. Approximately one-third of the staffing notes listed unmet needs under "physical development" and "self-direction", which are the two areas typically associated with Recreation services. Specifically identified needs included general exercise, gross motor training, swimming skills, and leisure activities.

If IHP Committee recommendations are taken as the final word, it appears that, in the past year, Recreation has been seriously inadequate in its delivery of services. However, it must also be taken into consideration that Recreation, unlike other service areas, is expected to provide services to every client on-grounds. In response to this expectation, Recreation conducts activities on a weekly basis which minimally meet this requirement: excluding the non-ambulatory units, each resident receives a bus ride and a movie each week of the year. In addition, cottage staff will recall the numerous times that Recreation has honked the horn to pick up folks for dances, community events, Recreation classes, Physical Education classes, and free swims. The list could go on.

Let us instead accept, for the moment, the fact that a change is necessary. This change may generally be described as a need to reprioritize the use of Recreation's available manpower and program time. Retrospection shows that, although the past year's client evaluations and IHP recommendations reflect the need for general exercise in almost all cases, the emphasis in Recreation has been on leisure time activities. This has certainly not proven to be a wasted effort, but things could be better. The task before Recreation throughout the summer, then, has been to re-arrange manpower and program time in order to better meet the overwhelming need on-grounds for general exercise. Secondary priorities, as reflected by IHPs, focus on swimming and leisure skills.

The Recreation Department this fall hopes to address this task in several ways. First, a Recreation Therapist will be assigned to each cottage as a coordinator for the residents' Recreation services, including Physical Education, swimming, and leisure activities. Since it is not feasible to expect that every client will receive all the necessary services, the cottage staff and the therapist will work in tandem to enroll clients on a priority basis. These decisions will be according to IHP recommendations, thus evolving as decisions reached with the input of all concerned parties.

Second, each cottage will have a number of days regularly assigned for its residents to engage in Physical Education and swimming, with consistent trainers across sessions. Since more trainers will be assigned to train in Physical Education, a larger number of clients will be served. In most cases, programs will be informal (data provided by periodic checklists), but progress will be more closely monitored by the Physical Education instructor and the therapist assigned to a particular client's cottage than has been done previously.

With regard to the leisure activities component, Recreation will provide some static training classes and also retain the most successful of the "rotating" activities offered this summer. Rotating activities include such things as arts and crafts, tumbling, trampoline activity, music and rhythms, and free swims. Each cottage receives about one and a half weeks' worth of sessions in each of the activities offered during the particular quarter of the year. When a particular cottage is rotated through a specific activity, the cottage sends those clients agreed upon by staff and therapist. Cottage staff may be asked to assist in conducting the activities, and they will be encouraged to comment on the appropriateness of the activities offered.

In addition, regular Recreation activities will still be provided, including bus rides, movies, community events, and holiday functions. The new schedule reflects the department's attempt to provide actual skill aquistion training to as many folks as possible. The feedback which has been received concerning the summer program and the shift of manpower and program time described here encourages us at Recreation to look with optimism toward the operation of the fall program.

In the past few years, increasing emphasis has been placed on the need for quality education and training of service providers for developmentally disabled persons. The following articles outline two major efforts being made in Montana to fulfill that need.

The first article describes the upcoming Associate of Science program to be offered by Western Montana College on its campus and within the state's two major institutions. The second article deals with the proposed University Affiliated Program, which would operate state-wide within the Office of the Commissioner of Higher Education and in conjunction with the Developmental Disabilities Division, addressing model programs and applied research as well as education and training.

The UAP proposal has generated considerable controversy among service providers and other groups across the state, who view it as unnecessary, expensive, and top-heavy with administrative personnel. At present, the proposal is before the Legislative Human Services Committee, which has asked the Board of Regents of Higher Education to postpone the UAP, pending the committee's scrutiny of management problems within the DDD.

Despite the controversy, though, the fact remains that few of the critics or supporters of the UAP know much about its actual proposed structure and activities. Hopefully, Kate Driskill's article will inject some objective information into the debate.
--John Moore, Ed.

AS's Coming to B R S & H

by James Burgess,
Director of Staff Development

Since the advent of the "right to treatment" laws on the state and federal levels, large mental health facilities have found themselves in a staffing dilemma. To be able to provide treatment to all clients, a facility is faced with the choice of either hiring a large contingent of professional therapists or developing an elaborate staff development program to train direct-care workers as treatment agents. The former option would be financially suicidal for most large facilities, due to the exorbitant costs of retaining a large staff of professional workers. The latter option, training direct-care personnel to paraprofessional status, has appeared to be the only logical alternative; however, this choice also has its problems. Personnel entering direct care positions typically have minimal job skills, and most facilities do not have the resources necessary for extensive staff development. When these conditions are coupled with the usual rapid turnover of direct-care staff, the problem is confounded.

Faced with this dilemma, mental health facilities have turned to the nation's colleges and universities for paraprofessional candidates only to discover that most institutes of higher learning have demurred in the challenge to train the paraprofessional. It cannot be denied that the training of paraprofessional workers for the human services fields is an urgent need. In a society where half of all hospitalized persons are being treated for mental/emotional disturbances, the need for competent mental health workers can hardly be overemphasized. Nevertheless, at a time when the mental health field is clamoring for paraprofessional workers, the nation's colleges are producing only professional level candidates. Data from a variety of mental health studies show a glut of Ph.D. Clinical Psychologists and M.S.W. Psychiatric Social Workers in the job market while there are virtually no paraprofessional candidates available.

The institutional employment and staffing situation in Montana parallels the national condition, but Montana's university system has not shyed away from the challenge of rectifying it. Over a year ago, the staff of Western Montana College (WMC) began researching the staffing needs and deficits of the major mental health facilities and organizations within the state. By April of 1978 the assessment was complete, and the staff proposed a special, two-year Associate of Science program to respond to the deficits that had been found. The curriculum for this program was designed and developed in a concerted effort between WMC professors and mental health professionals. It reflects the theoretical background necessary for skill generalization, the technical training necessary for employment in the field, and the practicum training essential to pragmatic skills and experience.

Academically, the curriculum is divided into five skill areas: Problem Analysis (Behavioral Psychology, Biology, Health Care, Chemical Dependence, and Rehabilitative Therapy); Communications (English, Mathematics, Speech, and Report Writing); Interpersonal Skills (General Psychology, Developmental Psychology, and Counseling); Organizational Dynamics (History, Political Science, and Sociology); and a 20-credit practicum area specific to the student's field of endeavor.

A new academic program specific to the paraprofessional mental health field is, to say the least, encouraging. However, Montana's facilities need paraprofessional workers now and cannot wait two or three years for WMC students to complete the program. With this problem in mind, the same WMC staff began working with the Staff Development Departments of Boulder River School and Hospital and Warm Springs State Hospital to establish a resident (extension) center at each facility. Both of these centers were developed in a short period of time, and the program can now be effected at three separate locations. This approach will allow on-site instruction to personnel presently employed in human services and should produce progressively competent workers in a shorter period of time, as well as providing students with the welcome opportunity to "earn while they learn".

Classes will officially begin at BRS&H on September 26, 1978. At the time of this writing, almost 50 employees have indicated interest in the program. The Staff Development Department is extremely optimistic about the program and will be working closely with WMC staff to effectively interface the two institutions in a common goal.

Boulder River School and Hospital expects the associate degree program to fill a gap in staff training and to provide the facility with more personnel qualified to fill paraprofessional positions. It is also suspected that the program will reduce the turnover rate by offering staff a strong incentive to stay at BRS&H, and such a program is likely to attract new employees who wish to continue their education while gaining relevant work experience.

The Shape of Things to Come?

By: Kate Driskill

Services to developmentally disabled clients have been under considerable public and professional scrutiny lately. Proposals for improved services have been offered from various sources, not all of which have been readily accepted or approved. One such proposal is the Montana University Affiliated Program Satellite (MUAPS). The "satellite" status means that the program would be linked to a "host" University Affiliated facility, that is, Utah State's University Affiliated Exceptional Child Center (ExCC), for the first years of operation. This article will attempt to summarize the major components of the proposal submitted to and recently funded by the Federal Developmental Disabilities Office (DDO).

In early 1977, Governor Thomas Judge appointed a steering committee to conduct a feasibility study regarding the possible establishment of a UAPS in Montana. The committee was composed of administrators and staff from the state Developmental Disabilities Division, the Office of Higher Education, and the Office of Budget and Program Planning, as well as from Utah State's ExCC. A "state of the union" investigation scrutinizing the services presently provided to DD clients in Montana was conducted, as well as a comprehensive needs assessment for future program development.

Two factors identified as contributing toward less than adequate services in Montana were the geography of the state and its sparce population. In addition, services to Native American groups are limited, and tribes appear to be hesitant to seek out services for their DD members. The agencies presently training service providers are the Department of Higher Education and the Human Services Departments, which include Boulder River School and Hospital (BRS&H), the Office of the Superintendent of Public Instruction (OSPI), and the Developmental Disabilities Division (DDD). In the opinion of the members of the steering committee, the lack of coordination and cross program reliability of training programs among these agencies has resulted in low morale of provider staff, a high turnover rate, and increased costs due to the need for continual retraining of staff. Further "roadblocks" to the provision of training (at least through the DDD System) were identified as the lack of a career ladder to encourage continuing education and skill improvement, the lack of certification of providers, and the resistance of program administrators to request or accept training as offered. These problems are seen as contributing factors in the following assessment:

	200	new clients to be served,
	200	clients inappropriately placed,
	82	clients on waiting lists, and
[illegible]	1000	unidentified handicapped persons, totaling
[illegible]	1482	persons in Montana who could be described as unserved, underserved, or inappropriately served.

Once the needs assessment was completed, the steering committee addressed the pros and cons of the major options available to meet the needs. Major considerations included: 1) location of the UAPS: 2) the relationship with Higher Education; 3) the organizational and financial structure of the system; and 4) the "workscope" of the MUAPS.

The location of the UAPS administrative offices would be the Office of the Commissioner of Higher Education, in Helena. The proposal, however, focuses on a system of exemplary services, technical assistance, and interdisciplinary training, rather than on a single unit or facility. The system would be placed in this office because it is the logical "seat" of the major responsibilities for training future DD providers. Demonstration sites would be located on the campuses of Montana State University (Bozeman), University of Montana (Missoula), Eastern Montana College (Billings), Western Montana College (Dillon), and Northern Montana College (Havre). Hopefully, the system would gain strength from all contributing campuses. Initially, no new buildings or major renovations are planned, although barrier-free facilities would eventually be developed.

The internal organization of the MUAPS would be comprised of four sections:

1. Management Services Section - this would include UAPS personnel services, business operations, clerical services, and budget and grants management;
2. Habilitative Services Section - this section would be responsible for all services administered directly by the MUAPS, for negotiating demonstration sites, and for identifying and obtaining support and funding for exemplary programs;
3. Resource Analysis and Development Section - this section would be responsible for developing applied research activities with already existing, "model" program sites. The affiliated agencies would retain their integrity, being administered by their own management personnel. Management studies, needs assessments, and grants would also be completed under this section;
4. Education and Training Section - staff in this component would develop, design, and conduct education and training programs at the preservice and inservice levels. The assistant director of this section would supervise Regional Clinical Trainer (RCT) staff and the Training Resource and Information Center within the DDD.

In addition, an advisory group, a policy-making board, and executive links with the host UAF would provide varied and valuable input into the UAPS. The present Montana Developmental Disabilities Planning and Advisory Council would serve as a Consumer and Professional Advisory Committee to the MUAPS. A Policy Board appointed by the Commissioner of Higher Education would report to his office. The Policy Board would have no more than nine members, with representatives from the following groups: Montana state service agencies, DD consumer groups, administrators of Higher Education, and state DD Planning Council members. The Director of the MUAPS would serve as an Advisory Council member of Utah State's ExCC, and vice versa, in order to establish coordinated program development and replication of exemplary services.

A total of 20.5 Full Time Equivalent positions (FTEs) would be designated for the first year of operation. Most of these positions would be in the Education and Training Section and not funded through federal money. Positions funded through the Developmental Disabilities office grant for the first year include:

Director	.76 FTE
Asst. Director of Management Services	.50 FTE
Asst. Director of Resource Analysis & Development	.50 FTE
Asst. Director of Habilitative Services	.50 FTE
Campus Liaison Officers	1.00 FTE
Affiliated Liaison Officers	1.50 FTE
Administrative Assistant	1.00 FTE
Total DDO-Funded Positions	5.76 FTE

The remaining staff would be funded through existing sources. All new staff positions would be recruited nationally.

The "workscope" of the MUAPS is reflected in the goals stated by the steering committee: a) to provide consultation and technical assistance to service agencies; b) to provide training of paraprofessionals, undergraduates, and graduates through preservice and inservice courses; and c) to develop exemplary and innovative programs through the demonstration of service models for DD persons and their families. The intent of the program is to expand the availability of current services and to coordinate the training effort in Montana through an interdisciplinary approach.

During the first quarter of the first year, the major activity of the MUAPS would be administrative planning. The second quarter activities would focus on providing training and technical assistance upon request to service providers and support personnel (e.g., lawyers, physicians, administrators, judges) throughout the state. This would be done through workshops, direct RCT contact, and BRS&H and OSPI training for employees. Quality control of training would be maintained through the Montana System of Higher Education; college credit would be offered for participation in training activities either through Utah State University or through one of Montana's colleges or universities. Money would also be available for the Boulder Training Center at BRS&H to train providers from community programs across the state. Additional objectives of the MUAPS would be to contract with OSPI to train school district personnel (as mandated by P.L. 94-142) and to establish a registrar of training programs and consultation services. Furthermore, during the second quarter, a detailed evaluation plan would be developed which would partially include the following: a) number of clients served, b) credit hours generated, c) competencies obtained by training participants and by clients, and d) cost/effectiveness of programs. Third and fourth quarter activities would include negotiating contracts to develop exemplary demonstration projects across the state. These various projects would be subject to licensing and regulation standards, as with any other service agency.

Another major activity of the UAPS administration would be to implement continuous accountability and evaluation procedures. The responsibility for designing and implementing a methodology for evaluating the MUAPS should be that of the Director of the Office of Planning and Evaluation of the ExCC in Logan, Utah, but this process would be shared with the Director of the MUAPS. Internal review of activities and attainment of objectives would be completed by MUAPS staff on a monthly basis. In addition, quarterly and annual reports would be prepared by the MUAPS Director and Assistance Directors, as well as an outside evaluation by the Planning and Evaluation Office of the ExCC.

The proposal for the MUAPS stresses the use of DDO grant money as "seed money" for the development of other funding sources. The following is a summary of funding for the first and second years' budget:

Source	Amount	Percentage
DDO	$138,126	27%
State Match	54,292	10%
Other	309,484	61%
Total (1st Year)	$501,902	98%
DDO	$138,125	20%
State Match	64,728	9%
Other	474,951	70%
Total (2nd Year)	$677,804	99%

In the closing pages of the MUAPS proposal, the steering committee states that,

> "At this point, to the knowledge of the writers, there are no groups or consumers or organized agencies which have withheld support. It is recognized that certain groups, particularly local groups and private interest groups, may not be adequately informed of the proposal. But a significant effort was made to involve them and keep them informed on all steps of the planning."

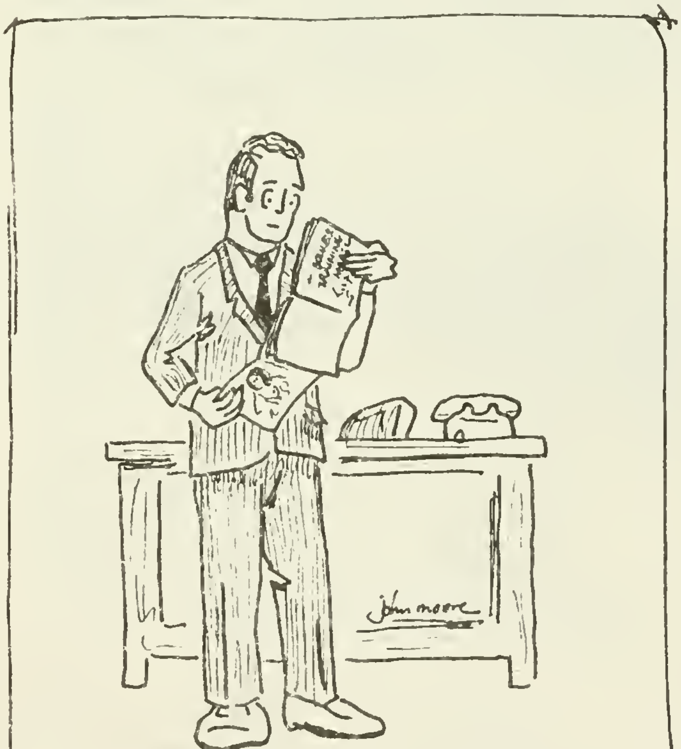
Whether or not the Montana University Affiliated Program Satellite has the unanimous support of consumer and provider agencies within the state, it would most certainly affect the total scope of services for Montana's developmentally disabled citizens, and, with proper administration, provide a model for other areas of the nation. It is the responsibility of all persons involved in the service delivery system within Montana to become familiar with the MUAPS proposal and actively to participate in shaping the direction it will take.

B T C Revises Training Manual

The Boulder Training Center (BTC), which is the vehicle for instructing direct-care staff in the methods and madness of the Boulder Training Model, has produced the third edition of the Boulder Training Model. The 165-page manual, newly printed in August, incorporates a revision and expansion of the training material included in the first two editions, which were printed in May, 1976 and April, 1977.

The present edition has been published in a bound booklet form, an improvement over the loose binding of the previous editions. Due to the expense of this format and the expected durability of the texts, BTC staff will recycle copies for use in the week-long BTM classes, rather than distributing personal copies to the trainees. This approach reduces waste without reducing effectiveness; each trainee is given a copy of the BTC Lecture Guides packet for extended use during and after training, and copies of the manual are available in all work areas for reference.

A limited number of copies of the Boulder Training Model are reserved for distribution to interested persons outside the institution. Although some of the material is specific to BRS&H, the manual contains much useful information about data-based skill acquisition and behavioral intervention training with developmentally disabled persons. Information may be obtained or copies may be ordered by writing to Mary Tillema, Director of the BTC, Staff Development Department, Boulder River School and Hospital, Boulder, MT 59632. In order to offset printing and mailing costs, $2.50 will be asked in advance for each copy. Checks should be made payable to Boulder River School and Hospital.



Announcing!!! The new, improved, Third Edition of the Boulder Training Model!! Provocative . . . Exciting . . . Titillating . . . yet not without redeeming value!

AAESPH Conference Slated

The American Association for the Education of the Severely/Profoundly Handicapped (AAESPH) will hold its fifth Annual Conference in Baltimore, Maryland, from October 25 through 27, 1978. The focus areas of the conference will be adaptive equipment and prosthetic devices, administrative concerns, assessment, curriculum and instruction design, infants, interdisciplinary strategies, language, legal aspects, medical and physical aspects, occupational and physical therapy, parents, personnel preparation, recreation, self-help skills, service models, and vocational training. The conference will be headquartered in two hotels: the Baltimore Hilton and the Lord Baltimore. Further information may be obtained by writing to The American Association for Education of the Severely/Profoundly Handicapped, 1600 West Armory Way, Seattle, Washington 98119, or by calling the conference coordinator at (206) 283-5055.

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The Boulder Behaviorist is a bi-monthly publication of the Habilitation Department of Boulder River School and Hospital. We invite interested individuals to submit articles describing the use of applied behavior analysis with developmentally disabled populations. Data-based articles with an explicit method are preferred, and we reserve the right to edit all material.

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Behavioral Management of Obesity in the Prader-Willi Syndrome

Timothy Plaska and Patrick Friman

Editor's note: The following report is a condensed version of an article submitted for publication in the journal Behavior Therapy. Copies of the complete article including additional references can be obtained from the first author, Boulder River School and Hospital, Boulder, Montana 59632. The authors wish to express their appreciation to the staff of Cottage 3 for their assistance and cooperation in implementing the treatment procedures which were used.

Obesity has long been considered a major health-related problem in the United States (Staugaitis, 1978), and recently a great deal of attention has been focused upon the need to develop effective treatment programs to help overweight and obese individuals to lose weight. Reviews of traditional treatments for obesity, such as the use of medication and psychotherapy, have generally shown discouraging results and have indicated that traditional methods have had almost no impact on this national health problem (Stunkard, 1958; Stunkard & McLaren-Hume, 1959; Chlouverakis, 1975).

Recently a substantial amount of research has been conducted using behavioral procedures to control obesity (see reviews by Abramson, 1973; 1977; Bellack, 1977; Stunkard & Mahony, 1976), but there has been little in the published literature describing treatment of this problem with the mentally retarded, and there have been no studies reporting the effects of using behavioral procedures with mentally retarded individuals having the Prader-Willi Syndrome. Individuals with this syndrome frequently exhibit inappropriate behaviors such as food stealing, gorging, the consumption of unusual objects or products commonly considered to be unappealing and unappetizing, and often engage in temper tantrums and other maladaptive social behaviors (Zellweger & Schneider, 1968; Holm and Pipes, 1976). Research conducted to date does not provide a precise explanation of why Prader-Willi individuals engage in such behavior, and attempts to control the obesity of individuals with this syndrome generally have consisted of trying to manage their nutrition and caloric intake by providing low calorie foods and making other food inaccessible.

The following case study describes how behaviorally based contingency management procedures were used over a two year period with an institutionalized adult diagnosed as having the Prader-Willi Syndrome, and the results of using such procedures to control his obesity.

Method

Subject

The subject, Ray L., was a 28 year old male, 5 feet ¼ inches tall who was diagnosed as having the Prader-Willi Syndrome. Ray was classified as mildly retarded and had been institutionalized since he was thirteen years old.

During this period, management of Ray's diet had been the standard treatment used to control his obesity and generally such attempts had proven to be ineffective. Ray also had a long history of stealing, hiding and eating food prohibited by his diet and often engaged in aggressive and disruptive behaviors when prevented from eating such items.

Procedure

Baseline: During the eight month period prior to intervention, Ray was on a controlled diet which was designed to limit his caloric intake to 800 calories a day. During this period he was weighed each month by a nurse assigned to his cottage, but there were no contingencies in effect for either weight gain or loss. If he was caught stealing or hiding food prohibited by his diet, it was taken away by the cottage staff.

Phase I: Following the baseline period, a treatment phase utilizing contingency management and overcorrection procedures was begun. During this phase Ray was reinforced for following his diet and for not stealing food. Yogurt, a low calorie food that Ray enjoyed eating, was used as a reinforcer. Cottage staff explained to Ray that he would receive a cup of yogurt each day if he followed his diet and did not attempt to steal food from others. If he did attempt to steal food, eat items prohibited by his diet or was found possessing food prohibited by his diet, he would not receive the yogurt, and would have to apologize for his inappropriate behavior. Each day during which none of the target behaviors occurred, a 200 calorie cup of flavored yogurt was given to Ray one half hour before he went to bed. A staff member sat with Ray while he ate the yogurt and praised him for not engaging in the specified behaviors. If he did engage in any of the target behaviors, he was verbally prompted through an overcorrection procedure for thirty minutes. The overcorrection procedure included components of both restitution and positive practice. As restitution, Ray was required to apologize for his inappropriate behavior and for any disruption or disturbance it caused. The positive practice component required him to practice making verbal statements about other more appropriate behaviors he should have engaged in rather than the target behaviors. For example, if he had eaten items prohibited by his diet, he would be required to practice making verbal statements describing why he should eat only items which were allowed by his diet.

Phase II: During the second phase of the intervention, the use of yogurt as a reinforcer and the verbal overcorrection procedures were replaced with contingency contracts. These contracts were mutually [redacted] Ray and the cottage st[redacted] and specified reinforcers that Ray wo[redacted] did not engage in the target behaviors. The same target behaviors were being consequated during this phase, but instead of being reinforced with yogurt and social praise, Ray was allowed to select his own reinforcers from a list of items. The items that he selected were then used contingently to reinforce Ray for not engaging in target behaviors and also for losing weight. The amount of weight to be lost was negotiated between Ray and the staff and was included in the written contract. If Ray did engage in any of the target behaviors, he did not receive the reinforcers specified in the contract, and was required to exercise in the cottage to lose weight. Exercise was an activity Ray did not enjoy, but it was not harmful to him and its use was approved by the medical staff of the institution.

Phase III: During the third phase of the intervention, Ray's program was expanded into a larger token economy system with a response cost component. Ray earned points each day for a wide variety of appropriate behaviors such as maintaining his current weight, losing additional weight, exercising, participating in skill training programs, keeping his room neat and clean, and for completing personal hygiene tasks such as bathing, brushing his teeth, and shampooing his hair. Ray lost a specified number of the points he had accumulated whenever he was caught stealing, possessing, or eating food prohibited by his diet. He also lost a specified number of points for each pound he gained over his weight from the preceding week. At the beginning of this phase, Ray and the cottage staff agreed to specific reinforcers that he could purchase with his points, such as overnight trips, special T.V. privileges, access to favorite games or activities, and certain food not prohibited by his diet.

Results

As shown in Figure 1, Ray's average

weight during the baseline period was 320 pounds. The first phase of the intervention program was in effect for one month. During this phase Ray was reinforced with yogurt and social praise at the end of each day during which he did not eat, steal, or possess any food prohibited by his diet. If he did engage in any of these behaviors, he was prompted through a 30 minute overcorrection procedure. During this period Ray's average weight was 328 pounds.

The second phase of the intervention program was in effect for twelve months. During this period Ray specified the reinforcers he would like to earn for not eating, stealing, or possessing food prohibited by his diet and was required to exercise if he did engage in these behaviors. He also agreed to certain privileges he could earn by losing a specified amount of weight each week. During this phase Ray's average weight was 290 pounds. During the last month of this period, his average weight was 276 pounds, a decrease of fifty-two pounds compared to his average weight during Phase I.

The third phase of the intervention program was an individualized token economy system. During this period Ray earned points for losing weight and for engaging in a wider variety of appropriate behaviors and lost points for gaining weight and for engaging in inappropriate behaviors. His weight during this period averaged 278 pounds.

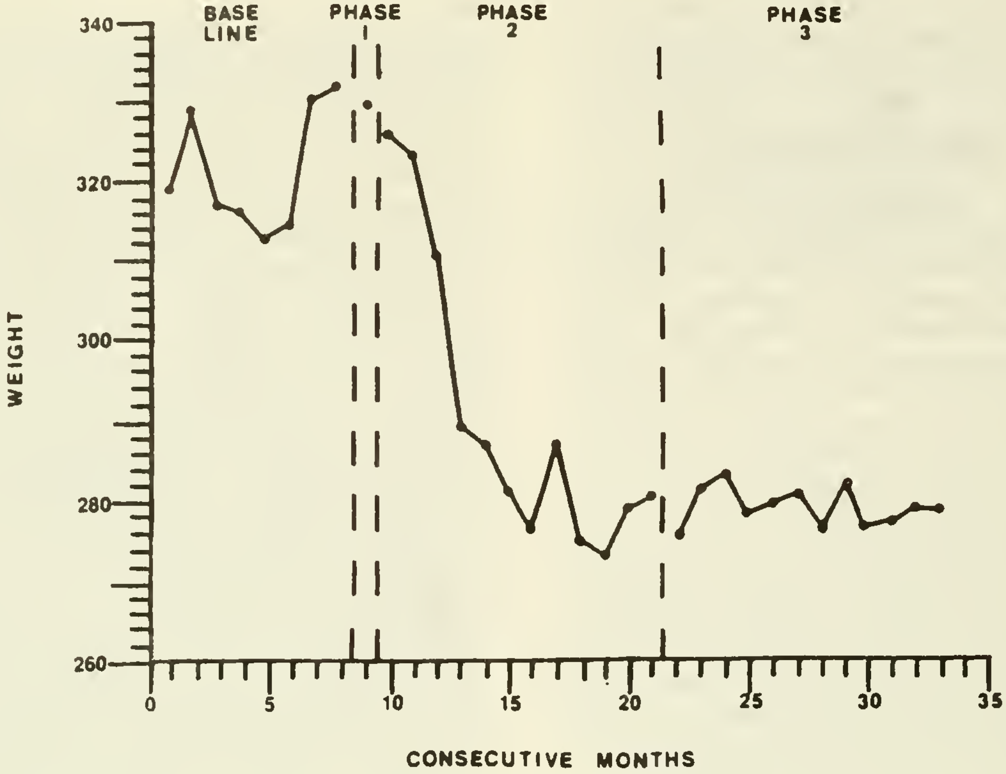
Discussion

The interventions used in this study were specifically designed to modify Ray's eating behaviors and to reinforce him for losing weight. Contingency contracting has already been demonstrated to be an effective method of weight control with obese adults (Mann, 1972), with schizophrenics (Upper and Newton, 1971; Moore and Crum, 1969) and with emotionally disturbed children (Dinoff, Rickard & Colwich, 1972). Acknowledging the weakness of the experimental design used, the results of this study do indicate it may also be an effective method of achieving and maintaining weight loss with mentally retarded individuals having the Prader-Willi Syndrome.

An interesting finding during the course of this study was that the overcorrection procedure used in Phase I was extremely difficult for staff to conduct and often resulted in Ray's becoming disruptive and noncompliant. During Phase II, this procedure was replaced by the exercise contingency. The cottage staff viewed this procedure as more rational to them and more acceptable to Ray. They also reported that it was easier to implement than the verbal overcorrection procedure. The use of an A-B design without a reversal to baseline condition precludes any definitive statements regarding the effects of the procedures used, but the results do suggest that the use of the exercise contingency in Phase II, in conjunction with the self-selected reinforcers, had the greatest effect upon Ray's weight. Replications of this study using a multiple baseline design may support this finding, and would avoid the ethical concerns inherent in using a reversal design.

There was not a significant weight loss during Phase III of this study, but the token system appears to be an effective maintenance procedure. The token system was designed to decrease the aversiveness of the treatment program and to encourage Ray to assume greater responsibility for the modification of his eating behaviors.

An important question is whether Ray's weight will maintain at the current level once the token system is gradually faded out and whether the natural reinforcers in his environment will be powerful enough to maintain the reduction. In relation to this question, Abramson (1977) in his review of behavioral approaches to weight control, concluded that although studies have shown that weight could be lost using contingency contracting procedures, long term reduction was unlikely since eating habits were not changed by the treatment. He also concluded that self-control is the most effective treatment for obesity currently available. Additional research is needed to determine if self-control procedures can be effectively used with individuals having the Prader-Willi Syndrome to teach them how to alter and control their eating behaviors, and to maintain weight loss once they are achieved.



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Implementing the Activity Area Concept: A Comparison of Procedures

Roy Holmstrom

When I began working as a trainer in the Title I training program, one of my concerns was the high level of maladaptive behavior exhibited during the group activities. The group activity, briefly, consisted of an informal training program conducted among the three to five residents present. The use of this method meant that, at any one time, two to four residents were not interacting with the trainer. The various forms of maladaptive behavior exhibited during these brief off-task periods included passive inactivity, and stereotypic behaviors, and outbursts of disruptive, destructive and aggressive behavior.

The decision was made to introduce an alternate "holding" actvity for each resident and a formal training program for all residents. The objective was to decrease the level of maladaptive behavior during the absence of formal program interaction and simultaneously to increase the level of on-task, preverbal behaviors. It was accepted that, in order for the holding activities to have the desired effect, the activities chosen for each resident had to be appropriate to that individual's capabilities, as determined by past observation.

As expected, the introduction of alternate activities appeared to effect a decrease in occurrences of maladaptive behaviors, thus fostering a more constructive learning environment for the formal program. However, no objective data was taken which would validate the subjective observations.

After group training was conducted in this way for about a year, it was suggested that an objective assessment be made to compare the method using alternate activities with a method of presentation which did not involve the use of alternate activities. In the present study, the two group activity methods were designated as Presentation Method I (PM-I) and Presentation Method II (PM-II).

Presentation Method I was characterized by the provision to each student in the group with an activity suitable to his capabilities. As progress was made toward the completion of his task, the student was intermittently reinforced by the trainer with praise and a small edible item. Upon completion of the task, the student was again reinforced and then given another activitiy. In addition, the trainer conducted a formal training program on a rotating basis; the trainer would temporarily remove a student's activity, present a trial from the formal program, and then return the activity to the student before rotating to the next student.

Presentation Method II consisted of presenting several successive trials from the formal program to a student before proceeding to the next student. No alternate activities were given to students; it was posited that those students not involved in the formal program at any one time would benefit by observing the trainer and student involved in the program.

Both training groups consisted of four severely/profoundly retarded adolescents. During each session, which lasted about 30 minutes, the students were seated on one side of a semi-circular table, facing the trainer.

Two trainers were selected for observation: Trainer 1 favored the use of PM-I, and Trainer 2 favored the use of PM-II. Measurement was taken on each trainer using PM-I for 15 sessions and using PM-II for 15 sessions. Each trainer used one method for four consecutive sessions with a group of students and then switched to the other procedure for four consecutive sessions.

The evaluation of the two methods involved a time-sampling procedure (The Title I Educational Manifest) which measured students' behavior in six areas: 1) on-task behavior, 2) task-completion behavior, 3) stereotypic behavior, 4) interaction with staff, 5) observation of others (involved in formal program), and 6) object manipulation. No reliability checks were conducted with the observer.

The results of the observations are graphed in Figures 1 and 2, which show the percentages obtained in the six behavior catgories from the sessions conducted by trainer 1 with his group of students. In addition, the mean percentages obtained in each category for the two methods are presented in Table 1.

In four of the six areas, the results indicate that the use of alternate activities (PM-I) fosters a higher level of constructive behavior among students. There is no significant difference between the methods in the category of observing others, this result contradicts the modeling effect posited by PM-II. There is also no great difference between the methods in the amount of staff interaction, although it had been expected that the use of PM-I would result in a higher percentage of interaction.

In three of the four remaining areas; on-task behavior, task-completion and object manipulation, PM-I yields much higher percentages of occurrence. Students who have objects to manipulate and tasks to complete, as in PM-I, should score a higher percentage in these areas than students who have no task before them, as in PM-II, so observation in these areas may be biased toward PM-I. However, the efficacy of using PM-I is reflected in the levels of stereotypic behavior observed; the percentage in PM-II is more than double that in PM-I. This is important, since an original objective of using PM-I was to reduce the level of maladaptive behavior exhibited by students.

Preparation is presently being made to conduct another comparison of the two methods stressing observer reliability and the scrutiny of additional measures, such as rate of progress in the formal training program.

Behavior Category	Mean Percentage	
	PM-1	PM-2
On-task behavior	70%	29%
Task completion	68%	9%
Stereotypic behavior	20%	48%
Staff interaction	16%	18%
Observing others	12%	15%
Object manipulation	75%	10%

Table 1
Mean Percentages
by Presentation Method

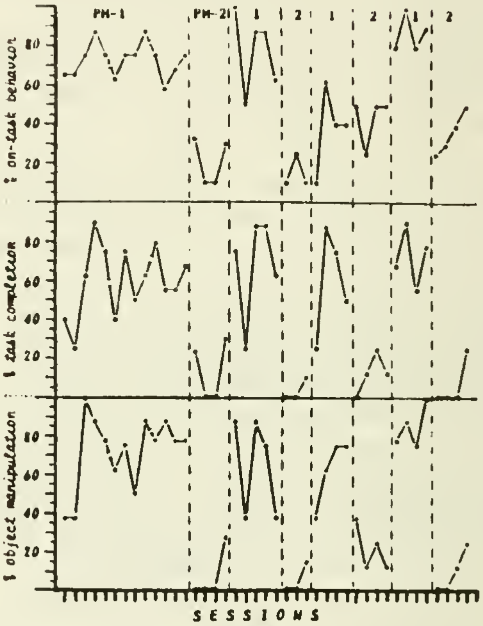

Figure 1

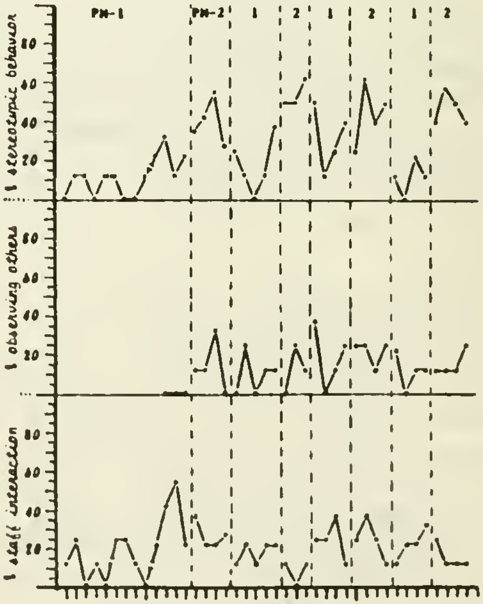

Figure 2

A Component Analysis of Staff Training

Barbara L. Matlock & Gary L. Adams

Reviews of staff training programs (Kazdin & Moyer, 1967; Lober and Weisman, 1975) do not provide many examples of research analyzing multiple components in successful staff training. Classroom instruction without practice has not resulted in changed performance (Gardner, 1972; Katz, Johnson & Gelfand, 1972). Feedback to staff has improved performance, but when the feedback phase was dropped the improved behavior did not maintain (Cosspirt, Hall & Hopkins, 1973; Kazdin, 1975a). Various authors have suggested procedures to maintain behavior (Kazdin, 1975b; Walker & Buckley, 1974), but unfortunately there are very few published examples.

The purpose of this study is to analyze components of staff training and a procedure to maintain improved behavior.

Method

Subjects

The morning shift of one cottage of a public institution was used.

Procedure

Prior to the beginning of this study, the staff had been trained in behavior modification techniques in a classroom setting.

During the lunch meal on Tuesday through Saturday, the performance of staff were observed. Depending on staffing, either three or four staff members were chosen. Each trainer was observed in 15 second intervals for one minute. Then the observer(s) rotated attention to the next person on the list. Each trainer was observed for a total of five minutes.

Appropriate staff behavior was (1) a correct cue and a reinforcing consequence, (2) a reinforcing consequence, or (3) appropriate physical assistance (shadowing). Examples of inappropriate staff behavior were doing tasks for residents (e.g. cutting food), cue-no consequence, multiple or inappropriate cues, staff instruction, or no response. A time interval was marked as appropriate only if it contained an appropriate behavior and no inappropriate behaviors. The average inter-observer reliability during this study was 95.6%.

Baseline. The staff members had been told what was appropriate staff behavior.

Grouping + Individualized Signs. The residents were grouped according to functioning level. Also, individualized signs were made and placed on mobiles above the residents' chairs.

Grouping + Individualized Signs + Feedback. An experimenter gave the trainers specific feedback immediately and reinforced appropriate staff behavior.

Follow-up. No feedback was given to the trainers. The follow-up points were one day later and then weekly.

Grouping + Individualized Signs + Feedback. The previous phase was reintroduced.

Delayed Feedback + Graphing + Fading. At the end of an observation period, each trainer's percentage of appropriate training, i.e. appropriate training intervals divided by total intervals, was shown in graphic display. The number of observations were slowly decreased over a two-month time period.

Results and Discussion

Figure 1 shows the results of the average percent of appropriate staff behavior. From the baseline, it is obvious that the classroom training had little effect on cottage performance ($\bar{x} = 12.2\%$). Although the use of signs and grouping residents by functioning level improved staff performance ($\bar{x} = 28.7\%$), the addition of feedback made a very large change ($\bar{x} = 46.3\%$). Like previous studies (Cossairt, Hall & Hopkins, 1973; Kazdin, 1975a), when feedback was dropped the improved behavior did not maintain (follow-up; $\bar{x} = 33.0\%$). The reinstitution of the feedback phase led to a return of the previous high rate (43.2%). The maintenance strategy of delayed feedback, graphic display, and fading led to a surprisingly high rate of appropriate staff performance ($\bar{x} = 44.5\%$ over two months: 1st two weeks - $\bar{x} = 43.2\%$ over seven observations; 2nd two weeks - $\bar{x} = 48.0\%$ over three observations; 3rd two weeks - $\bar{x} = 41.0\%$ over two observations; and 4th two weeks - $\bar{x} = 49.0\%$).

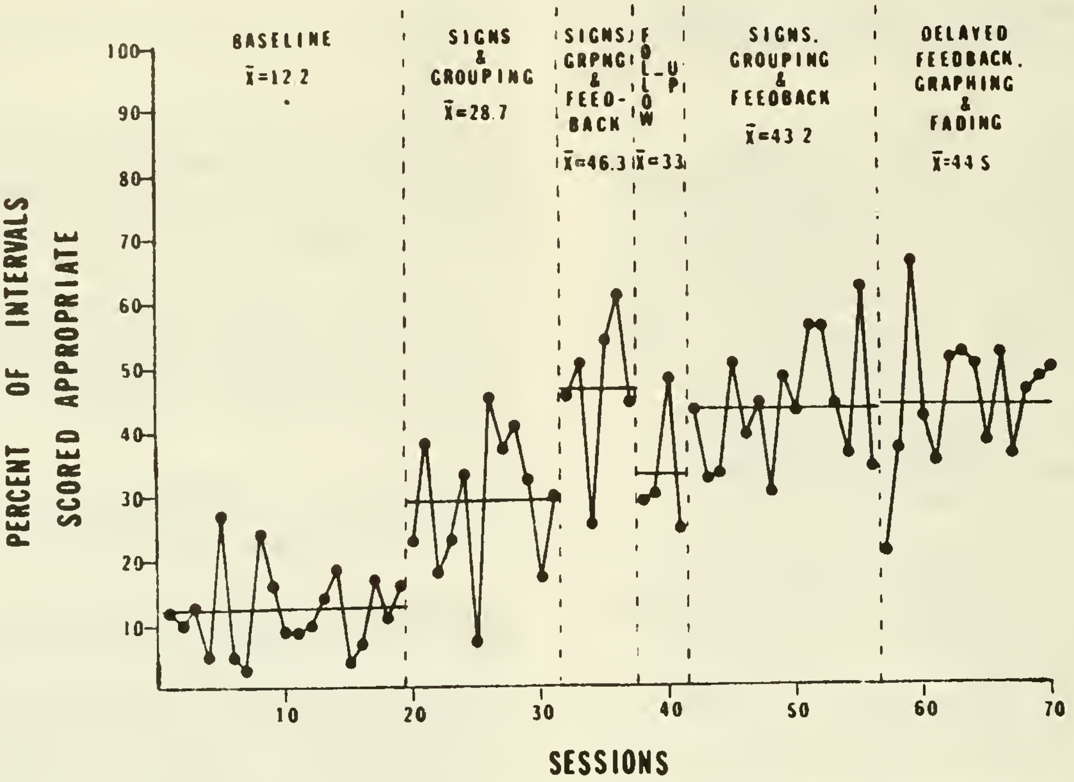

Figure 1. % of intervals with appropriate staff behavior (i.e. an appropriate staff behavior without any inappropriate behaviors or no response).

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"You know, Smedley, you'd probably get more training done if you didn't spend so much time peeling M&M's."

Predicaments and Predictions

Editor's note: This article is condensed from "What is Coming Down the Pike?", by James D. Clements, M.D. Dr. Clements, who is the superintendent of the Georgia Retardation Center, presented the paper at the conference of the National Association of Superintendents of Public Residential Facilities for the Mentally Retarded, February, 1978, in Tampa, Florida.

The first residential facility for mentally retarded people, called "cretins" at that time, was established by Johann Guggenbuhl, who declared himself "God-chosen" for that population. He was, incidentally, the superintendent of the first institution to be closed because of scandal and poor management. The concept of the residential training school spread to the Netherlands (Abendberg in 1842), to England (Bath in 1846), and to Germany (Mariaberg in 1847).

Samuel Gridley Howe, an American, followed the poet Lord Byron to Greece, where Howe became a devout social reformer. He perceived all mankind to possess an innate goodness, waiting only to be awakened and released. With Dorothea Dix, Howe persuaded the Massachusetts legislature to found the first American public residental facility for "idiots" in 1848. It is a curious observation to note that Howe played down any emphasis on improving the residents' lives and reported that his major accomplishment to be the "arresting of the process of deterioration." This attitude later prompted Florence Nightengale to say: "It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm." This principle was evidently deeply rooted, however, for Judge Judd of New York talked of "protection from harm" over 100 years later.

Seguin disagreed with Howe and felt that "idiots" could indeed be educated. Howe wrote to a friend: "In the matter of idiocy they do not know so much in England as they do in France, and in France not half so much as they and the world think they do, and the idiot school of Paris leads the world to think that their pupils are idiots which they are not."
I say, has anything changed?

Nevertheless, both Howe and Seguin campaigned for the spread of American residential schools. Seguin decreed the first standards, which were: 1) the maximum population should be 150; 2) there should be a ratio of one staff for every 5 to 20 residents; 3) there should be a reliance on a God-like superintendent.

The spirit of social reform of this period was predicated on the proposition that unfortunates could be passed through the magic doors of institutions and back to society, totally rehabilitated. Disappointingly, it was learned that people and problems passed through the doors never to return.

Institutions were soon overflowing. As a result of this overcrowding, Edward Jarvis was commissioned in 1854 to conduct a study of instituional failure. He concluded that the incidence of insanity, idiocy, and crime were highest among the poor. The popular pseudoscience of the time, phrenology, led Jarvis to believe that these people were suffering from imperfectly organized brains. The potato famine in Ireland had directed hordes of Irishmen to America. Jarvis reported that they were unable to adjust because of brain defects and were filling American institutions. Another group singled out by Jarvis was blacks. (One wonders where he got his incidence figures on blacks; at the time, treatment facilities for blacks were virtually non-existent.)

President Lincoln, concerned with the poor performance of his army, created the U.S. Sanitary Commission to study the physical, moral and mental condition of the federal troops. This commission, underwritten by the big insurance companies and staffed mainly by wealthy New Englanders, including Samuel Gridley Howe, assembled data on body measurement, skull slant, and skull shapes. It reported on a high incidence of "inferiority" among blacks, immigrants, and poor whites.

Meanwhile, another scientific movement had been growing. After studying the evolution of plant and animal life, Charles Darwin and Alfred Wallace independently reassessed the earlier thesis of the social philosopher Malthus, namely that rapid population growth would lead to massive starvation of the human race. The theory of the survival of the fittest emerged. Wallace eventually concluded that primitive man was simply different from his civilized descendant -- not so, according to Darwin. Darwin's cousin, Francis Galton, added fuel to the movement by tracing pedigrees of genius in royal families in support of a theory on mental inheritance. The opposite side of this counterfeit coin soon became apparent, and what transpired was a wave of fear aimed at the "unfit." In Germany, Wagner drew heavily from this concern as he unfolded the legend of Seigfried -- a hero, symbolic of the chosen race, destined to rule the world and its "unfit." In England, social darwinism was created by Spencer in defense of the sweat shops, child labor, and starvation. He was horrified at public education, health care, or any other social service that interfered with the elimination of the unfit.

Queen Victoria ushered in the age of "respectability," in which hypocrisy became virtue. Dugdale published his study of family degeneracy, "The Jukes." Even though he stressed environmental factors, readers were already conditioned to conclude that the social ills of crime, pauperism, and disease were inherited and were closely associated with intemperance, sexual promiscuity, mental illness, and idiocy, despite the fact that only one case of idiocy was reported among the 709 subjects in Dugdale's study.

It was during this period, at the time of the U.S. Centennial in Philadelphia, that Seguin became the first president of the organization now known as the American Association on Mental Deficiency. That same year, a group of scholars held the first international meeting on mental deficiency in London. The discussion of both groups noted that many defectives could be improved by "boarding out," but that some, the less promising cases, needed more protection. It was therefore proposed "here and there, scattered over the country, villages or simple cities of refuge, havens in which all could live contentedly, no longer misunderstood nor taxed beyond their mental capacity." Thus, contrary to the warnings of Howe and Seguin, institutions were removed from population centers -- in Seguin's words, "out of the reach of concourse, out of the reach of scientific men and means."

This segregation soon led to other notions. "Idiots" were not only to be kept quietly and safely away from the world, living as angels in heaven, neither marrying nor given in marriage, but were also to be protected from the dangers of "evil social promiscuity." Connecticut led the legal way: "Every man who shall carnally know any female under the age of forty-five who is epileptic, imbecile, feeble-mined, or a pauper shall be imprisoned not less than three years." Other states quickly passed similar bills, and a national law to prohibit marrige to the feeble-minded and insane was proposed in 1897.

Society then attempted to methodically make the retarded into "angels" by "removing the organs which the sufferers were unable to exercise normally." For males, castration was highly perfered over vasectomy. In one stroke, it not only accomplished sterilization, but also eliminated sexual debaucheries, masturbation, was said to diminish epilepsy, and often to "improve the singing voice." In Newark, an asylum was created for feeble-minded women of child-bearing age and, as sort of an afterthought, for criminals. The Rome State School was opened for helpless, unteachable "idiots" and for delinquents -- a place, no doubt, for the survival of the fittest bullies.

The political profit of large institutions was that they were more economical. Inmates could work and earn their keep, just as in St. Vincent's Hospital in the 1600's. Thus, in the 40 years since Howe had begun teaching a class of 10 "idiots" in 1848, fifteen states had established institutions averaging nearly 300 residents, protecting the feeble-minded from the world and the world from them. Large institutions grew larger. The public's interest in ridding itself of deviants "for their own protection" increased, and all of you know the rest. It was not until 1963 that President Kennedy's panel on mental retardation recommended that institutions be no larger than 500 residents.

In 1975, Susan Roos, utilizing the so-called "Delphi Technique," studied the question of the future of residential services for the mentally retarded. This study attempted to predict major trends in the field. The two major principles supported in the field, according to the study, are the developmental model and the normalization principle. Some predictions for the study are:

1. 90% of institutional populations will be severely/profoundly handicapped.
2. More than 50% of admissions will be for less than one year.
3. Legal and fiscal requirements will have a greater impact on the delivery of services than programmatic decisions.
4. Most institutions will be no larger than 150 residents.
5. Infants in instutitions will decrease in number because of a decline in the birth rate and the interruption of high-risk pregnancies.
6. More severely/profoundly retarded people (up to age 25) will remain at home with assistance of government-employed staff in the home.
7. The public multi-purpose, large institution (500 or more) will no longer be needed.
8. Residential and non-residential services will be fully integrated.
9. Living units in residential facilities will be for less than 20 persons.
10. The number of persons served in private facilities will decrease by 25%.
11. Mandatory commitments will be discontinued.
12. Foster care and adoption will be extensively used.
13. Citizen advocacy programs will be deemed essential.
14. Due to a backlash, standards and regulations will become more flexible.
15. Vigorous application of standards and quality controls will be enforced on small, proprietary group facilities due to their rapid, chaotic and erratic development.
16. With national health insurance, the consumer will be able to select and to influence services and their development.
17. High risk infants and children requiring 24-hour, out-of-home, skilled care will be resided in special nurseries close to hospitals.
18. The unit system of organization rather than discipline-oriented organization will be employed in institutions.
19. Most (at least 75%) residential programs will have joint research and education endeavors with universities, colleges and other agencies.
20. Protective and monitoring mechanisms, such as human rights committees and periodic consumer evaluations, will become regular components of residential services.
21. Retarded persons being served by residential facilities will have the same sexual freedom as other citizens of the same age living in the same state.

In addition to these predictions, there are activities currently occurring in our field that will greatly affect the future of programs for retarded people. I do not attempt to prioritize these activities according to possible impact:

1. New JCAH Standards, published in April 1978, combine residential and community standards and become effective July 1, 1978.
2. Congressional hearings on Justice Department standing.
3. Congressional hearings on sterilization.
4. Congressional hearings on behavior modification.
5. Congressional hearings on drug use in institutions.
6. Litigation on use of I.Q. tests.
7. Study of the ethics of mental retardation by the Kennedy Foundation and the Hastings Center.
8. Shifts in litigation from the central to the local level.
9. Coalition of labor unions, parents, and volunteer associations against community placements.
10. Community uprisings against development of community residential facilities.
11. States contracting with private and volunteer groups to provide services now generally operated by state agencies.

12. Proprietary nursing homes beginning to discontinue services for retarded people.
13. Change in definition of developmental disablities.
14. A decrease in the visibility of mental retardation at the Federal level. *
15. Increasing emphasis on provision of services by agencies not traditionally interested in or involved with retarded people.
16. Abolition of voluntary and involuntary admissions to institutions.

*This is verbatim, although it is unknown if Dr. Clements had his tongue in his cheek when he wrote it. --Ed.

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TRAINING PEER INTERACTION TO SEVERELY RETARDED ADOLESCENTS VIA PROMPT FADING AND TASK INTERDEPENDENCE '

By Don Cross

Introduction

The lack of peer interaction is a problem in institutionalized populations. Training severely retarded individuals to interact with their peers is a relatively new endeaver. Whitman, Mercurio, and Caponigri (1970) trained two simple social responses (passing a block back and forth and rolling a ball back and forth) to two severely retarded children. There have been attempts to train more complex social responses to mildly retarded individuals. Mithaug and Wolfe (1976) increased verbalizations between mildly retarded individuals by setting up situations where one peer had a puzzle piece that the other peer needed to complete a puzzle. The individual would have to vocally request the puzzle piece from his/her peer in order to complete the puzzle. Reinforcement was made contingent upon puzzle completion thus making the peers interdependent. The present study was an attempt to teach a similar level of peer interaction via interdependence with severely retarded adolescents.

Method

Subjects: Four severely retarded adolescents between the ages of fifteen and eighteen, two male and two female, were trained. Only three residents were involved during any one training session. Midway through Phase III, Subject III was placed into a community program and was replaced by Subject IV who had previously exhibited the skills necessary to begin the program during Phase III.

Setting: The training took place in a 10' x 10' room. In the middle of the room there was a card table with four chairs. The materials used included a puzzle board and pieces, spoon, bowl of pudding or fruit, cup, pop, coloring book and crayon, and pencil and paper. Training sessions were conducted four days per week lasting 30 to 45 minutes per session. The number of trials per session remained constant throughout the study.

Procedure: During baseline on the requesting behavior, the trainer instructed each individual, one at a time, to ask a particular peer for the item which that peer had in front of him/her. Example, "John ask Mary for the spoon." (The items were arbitrarily selected by the trainer before each trial in a random manner.) The trainer then recorded a correct response if (1) the individual was looking in the direction of the appropriate peer, (2) named the item and (3) said "please". An incorrect response was recorded if the individual's response failed to include all three components. No consequation for either correct or incorrect responses was provided during baseline.

During Phase I of the requesting behavior, the trainer gave the same instruction; however, if the correct response occurred the trainer would provide an edible reinforcer and/or social praise. If the correct response did not occur, the trainer, using the least assistance necessary, prompted the correct response by modeling the requesting response.

During the first four sessions of Phase I on the requesting behavior, baseline data was simultaneously being taken on the giving response. Once the item had been requested, the trainer recorded whether or not the peer from whom the item was requested did in fact give the requested item. No consequation was provided for either giving or failing to give the requested item. Upon completion of baseline for the giving response, Phase I for the giving response began. During Phase I of the giving response, the trainer reinforced correct responses with edibles and/or social praise. If the peer failed to give the requested item, the trainer used the least assistance necessary to prompt the giving response. At this point both the requesting items and giving items were in Phase I and continued until the criterion for phase graduation was met. A group criterion for successful completion of each phase was in effect, which required each individual in the group to respond correctly on 90% of the trials for both requesting and giving responses for two consecutive sessions. The entire group was not required to meet this portion of the criterion on the same two sessions. Once the three group members had met this portion of the cirterion, they were required to simultaneously attain 90% or above on both behaviors during the same sessions.

With the onset of Phase II, the trainer no longer specified the particular peer from whom to request the specified item. Example, "John ask for the spoon". Then commenced the systematic fading out of trainer input. Every other aspect of Phase II remained the same as the previous phase.

Up until Phase III, the items were distributed randomly during each trial, one to each individual participating in the program. During Phase III, the arrangement of the items being distributed became an essential aspect of the training. The trainer handed out the objects in such a way that one peer had an object that the individual would need in order to complete a task (which he/she was reinforced for upon completion) or consume a reinforcer. For example, the individual was given a coloring book, one of his peers was given a crayon, and the other peer was given any other object. The individual would need to ask his/her peer for the crayon to enable him to color. Other examples include having to ask for a cup in order to drink some pop, having to ask for a puzzle piece to complete a puzzle, and having to ask for a spoon to eat some fruit or pudding. The cue the trainer presented during Phase III was simply pointing out the individual's need to request an item. Example, "John you need a spoon so you can have some fruit". The trainer no longer reinforced correct responses because the response at that point was being reinforced under natural contingencies; i.e., if they asked for the spoon they were able to eat the fruit; if they asked for the puzzle piece they were able to complete the puzzle, for which they were reinforced. The giving response was maintained on an intermittent schedule of social reinforcement from this point through the end of the procedure. Incorrect responses for both giving and requesting were dealt with in the same way as the previous phases.

The fourth and final phase involved the situation described above with the omission of the trainer pointing out the need. The trainer arranged the items and waited for the individual to ask for the needed item. If the individual failed to request the needed item within fifteen seconds, the trainer then used the cue from Phase III, pointing out the need. If there was still no request the trainer prompted the correct response by modeling the requesting behavior.

Results

As can be seen in Figure 1, the mean percent of correct responses on the requesting behavior during baseline was less than 10% for subjects I, II and III. During Phase I the means increased to 69%, 73% and 64% respectively, ranging between 0% and 100%. There was an increase in the mean of at least 50% in each of the four intervention phases for Subjects 1 through III. Subject IV entered the program during Phase III and had a mean percent correct response of 84% during Phase III and 72% during the final phase. The results of the giving response shows baseline means of

10%, 10% and 24% for Subjects I, II and III. During Phase I the means increased to 68%, 79% and 83% respectively. During the subsequent phases, the mean percent correct response never dropped below 95% for any of the subjects.

Discussion

The data demonstrates that by arranging the items in such a way as to make the group members interdependent and by systematically fading trainer input severely retarded institutionalized adolescents can learn to initiate and respond to peer interactions. The first step is to train the desired response utilizing a complete instruction by the trainer, which includes specifying the object to be requested and the peer from whom to request it. The fading of the trainer input begins by not specifying the peer from who to request the item. Once the group members are asking the appropriate peer for the named item, the fading process continues by pointing out the need for a specific item as opposed to instructing the individual to ask for that item. When they are consistently asking for the needed item solely on the basis of that need being pointed out to them, the final link in the fading process can take place. The items should still be set up in such a way that a need exists; however, the trainer no longer points out the need. The group members at this point are required to respond to their need independently.

As in numerous training programs that take placed in structured settings with the same trainer, and at the same time the questions arise: Will generalization take place? Will the responses be maintained? Generalization and maintenance must be programmed and systematically faded to insure that the natural environmental contingencies will maintain those behaviors. In addition, the behaviors must be functional in that environment to be maintained or expanded upon. While these concerns are beyond the scope of this study, they are issues that must be addressed if a comprehensive habilitative effort is to take place.

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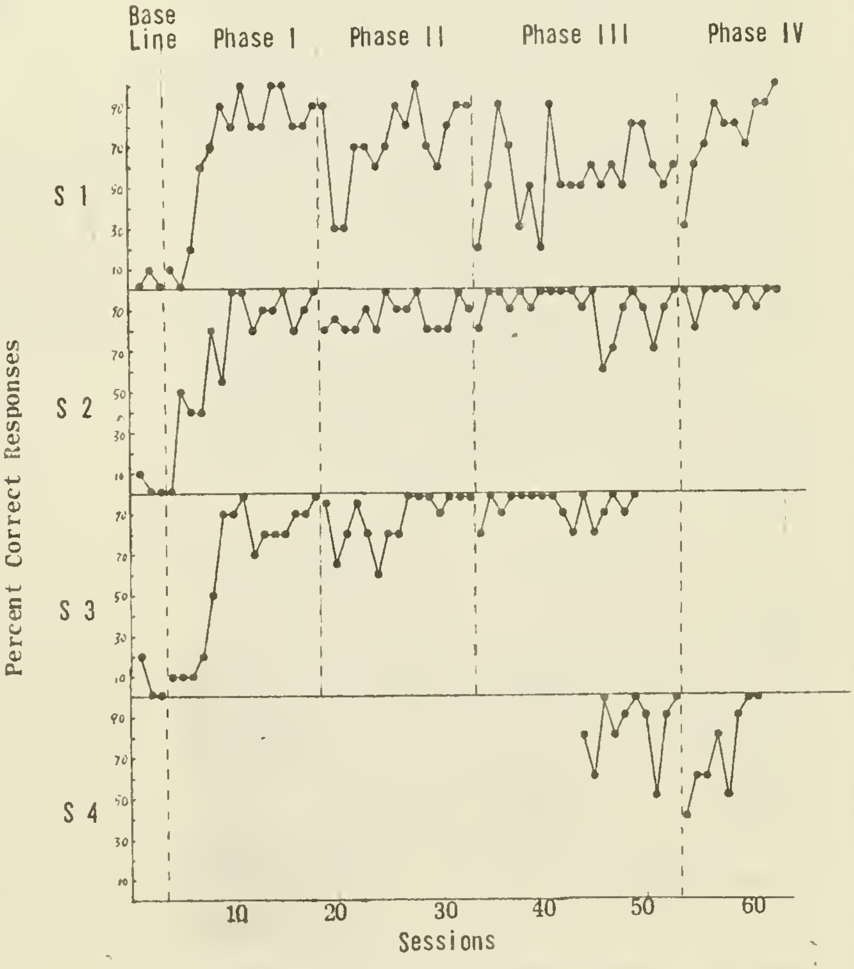


Figure 1 Percent correct requesting responses

Editor's note: In the following article, Ron Madsen describes the Gentle Self-Defense course which he developed for use at BRS&H. The class was first offered to institutional personnel in March of 1976. When Ron joined the Staff Development Department in September of 1976, the class became a regular feature of the pre-service curriculum. An expanded version of this paper has been submitted for presentation at the National Superintendent's Meeting during the 102nd Annual Meeting of the American Association on Mental Deficiency, May 15 through 20, Denver, Colorado.

GENTLE SELF DEFENSE

By: Ron Madsen

Few people would argue with the statement that resident abuse should be eliminated. Court actions over the past twelve years have made it increasingly probable that an employee found guilty of abuse will not only suffer the loss of his job, but may also find himself facing criminal charges. This recent emphasis on the protection of resident rights, although long overdue, has drawn attention away from the equally important issue of employee rights. Specifically, an employee should be protected from injury to himself when he is dealing with dangerous residents. In many hospitals and institutions, staff instructors stress the aversive consequences of abusing residents but neglect to give a new employee an alternative means of control. Gentle Self-Defense is one possible solution to this problem.

Gentle Self-Defense is an attempt to solve a serious problem faced by staff members whose job duties may include direct contact with violent residents. Many new employees have already learned (formally or informally) how to defend themselves from attack in open society. These individuals may have learned defense techniques designed to injure or disable an opponent. Violent offensive maneuvers are acceptable in street attack situations, but these same control measures (kicks or punches) are totally inappropriate against a population which, because of mental or physical impairment, cannot exert countercontrol. In such a situation, a violent defense would appropriately be labeled abuse. A major objective in GSD is to replace violent defenses with a series of techniques which have a lower probability of injury to the involved individuals.

Because time limitations preclude the teaching of defenses to all possible attack, it has been essential to determine which attacks have the highest probability of occurrence and then to teach specific responses to those aggressive acts. The types of aggressive actions exhibited by residents and the frequency of their occurrence are shown in Table 1. The data was drawn from an examination of 127 "Supervisor's Injury Reports" which were randomly drawn for the period of January, 1976, to January, 1978. Of the 127 injuries reported, 72 (52% of the total) were found to have been induced by resident aggression. Table 2 shows current census information from BRS&H, categorized by resident functioning levels.

Type of Aggression	Percent of Total Acts
Scratches	49%
Bites	17%
Punch to Face	15%
Kick to Body	13%
Pulled out Hair . . .	3%
Punch to Body	3%
	100%

Table 1
Supervisor's Injury Report Data

Levels of Retardation	Number	Percent of Total
Unknown	2	0.7%
Normal	1	0.3%
Mild	10	3.4%
Moderate	20	6.8%
Severe	30	10.2%
Profound	230	78.5%
	293	100.0%

Table 2
BRS&H Census Information
as of December, 1977

Many books and courses of instruction on self-defense have as their objective either sport competition or the preparation of individuals to defend themselves from aggressive actions on the street, in the home, or elsewhere in society. Most of these self-defense courses are based on one or more of the standard martial art forms, such as Judo, Karate, Akaido, boxing, or wrestling.

There are two characteristics which separate these common self-defense courses from the Gentle Self-Defense system. First, many defense systems are based on the observation that a strong offense is the best defense. These systems employ kicks, punches or other violent directions of energy against a vulnerable body area. GSD employs absolutely no violent attack or counterattack maneuvers. Instead, it incorporates blocks, releases, and control techniques designed to reduce any possible injury to the aggressor.

Second, street defenses are designed to be effective against coordinated, experienced, "street-wary" fighters. GSD depends upon the fact that the kinds of attacks initiated by a severely or profoundly retarded person are qualitatively and quantitatively different from those observed in open society. The retarded resident, although capable of great muscular strength, does not "plan" his attack. In fact the concept of a premeditated attack with intent to injure is uncommon in our resident population. Consequently, high speed and finesse (the result of years of practice) necessary for street defense are not essential when dealing with a slower, less coordinated, and often physically impaired population.

The GSD class consists of eight hours of practice on a series of 23 defense and control techniques which have been selected from the various branches of martial art. All techniques have been selected on the basis of two criteria: 1) effectiveness, and 2) low probability of injury. Trainees are taught defenses against punches, kicks, hair pulling, chokes, bear hugs, arm grabbing and biting. They are also instructed in techniques for taking a resident to the ground after an attack and transporting the aggressive individual without resorting to mechanical restraints.

Teaching a rather lengthy series of physical behaviors in a limited amount of time requires careful attention to time-saving instructional methods. In this regard, there are three important aspects of the GSD class.

1. The use of modeling as opposed to a narrative approach in the initial presentation of desired behaviors as well as in corrections in trainees' techniques. The instructor models (demonstrates) the correct form, and the trainees attempt to imitate the behavior. Whenever possible, verbal explanations of technique are avoided. I have observed that verbal instructions tend to confuse some trainees and thus hinder progress through the class.

Many self-defense classes depend on "instruction guides" which incorporate sequential photographs of technique accompanied by a lengthy narrative description of correct procedure. The objective of these guides seems to be to provide a photographic model for the student to imitate. The glaring problem with this photo-modeling approach is that the student becomes dependent upon the narrative description to the point that he "processes" a sort of running narration to himself as he performs the technique. This tends to slow the execution of the maneuver, and it may establish cues other than actual physical aggression as appropriate discriminative stimuli for execution of the technique.

2. The extensive use of video feedback to assure that the trainee can visually assess his strengths and weaknesses in technique. Feedback to the trainee is essential if each successive approximation of the target behavior (the properly executed technique) is to become more accurate. Verbal or physical demonstrations used as feedback, while effective, are time consuming. A video tape system is preferable because it is the most accurate and prompt method of delivering feedback. It is also rein-

forcing for a trainee to see his improvement in close-up and slow motion television images.

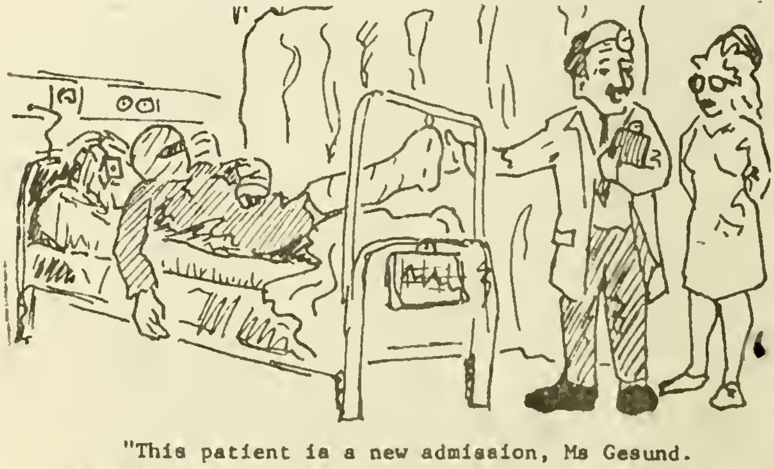
3. The careful arrangement of social contingencies during practice. Positive or negative comments from the instructor are effective in producing a behavior change in the desired direction. However, when those comments originate from fellow classmates, the effect is multiplied. Most of the practice in GSD, including video feedback and testing, is performed with the entire group watching. As instructor, I actively model positive comments contingent upon proper execution of the technique; this behavior is imitated by the group and results in greater motivation in the performer.

Gentle Self-Defense training for new employees is useful and productive in many ways. One positive aspect of the course involves resident compliance and training. Resident habilitation can be severely hindered by allowing aggressive/tantrum behavior to continue uncontrolled. A resident may learn that he can avoid certain activities and can control his environment to some extent by becoming aggressive. This exhibition of aggressive behavior will delay or prevent placement in the community. If the cottage aides are capable of defending themselves from resident attacks and have the confidence to intervene on a resident exhibiting tantrum behavior, they will not only prevent the resident from harming himself and others, but will also aid the habilitation process when the resident realizes that positive consequences do not follow aggressive behavior. I wish to emphasize that I am in no way advocating the use of defense and control techniques to modify resident behavior. Defensive techniques should be used only to prevent injury and to provide an opportunity for staff to reinforce other socially acceptable behavior patterns.

Based on casual observations and reports, it appears that GSD has been effective in reducing the injury rate at BRS&H. Unfortunately, a number of problems and variables confound accurate analysis. One major stumbling block lies in the fact that reports on aggression are completed only after an employee has been injured; that is, the resident attack was "successful". No documentation is provided of incidents in which an employee successfully defends himself from attack or controls an aggressive resident. Other uncontrollable variables include a varying resident population, fluctuating staff levels, and varying incidences of violent behaviors.

Aside from the apparent reinforcing value of the course for trainees (the overwhelmingly positive comments reflect an enjoyment of the exercise, social contact, and the acquisition of new defense skills), perhaps the major effect of the GSD course is a subtle one: I feel that it desensitizes new employees to aggressive environments. I would expect new employees who witness violence in the work area to react with less shock, surprise, and fear than if they had not been exposed to GSD.

We are currently working to expand the course to meet the needs of attendants dealing with higher functioning residents. In addition, efforts are being made to prepare a standard video taped demonstration of GSD techniques to serve as an introduction to the course as well as a review for students who have already completed the course. At this juncture, it seems appropriate for me to extend by special thanks to Tom Tso and Skip Webster, my Judo instructors, and to Ray Foster, who had the original idea of a self-defense system for use in mental hospitals.



"This patient is a new admission, Ms Gesund. He was one of the employees who volunteered to participate in Mr Madsen's Gentle Self Defense class."

AN UPDATE FROM THE BOULDER TRAINING CENTER

Some institutions forge such monumental achievements in their respective fields that they evolve into veritable landmarks in the history of human civilization. One need think only of the Academe Francaise, the Nobel Prize Committee, and, possibly, the National Basketball Association to recognize the efficacy of collective action. Unfortunately, the Boulder Training Center is not yet to be included in this elite rank of historical institutions, but the BTC keeps trying.

The BTC, it will hopefully be remembered, is the progeny of the contract between BRS&H and Teaching Research of Monmouth, Oregon. It was developed as a vehicle for training all institutional staff at Boulder in the theory and methods of behavioral training for residents. As the BTC observes its second anniversary of operation this month, it can cite a number of changes and improvements in the training effort.

Among the changes is the acquisition of a new director, Mary Tillema, who arrived in late December, fresh from earning her M.A. in Applied Behavior Analysis at Western Michigan University. Ms. Tillema replaces Maura Stagg, who resigned in order to pursue the reinforcement of motherhood. Ms. Tillema is a coauthor, along with Richard Malott and Sigrid Glenn, of *Behavior Analysis and Modification: An Introduction*, which she describes as "an introduction to radical behaviorism and behavior modification." The book is due this spring from Behaviordelia of Kalamazoo, Michigan.

Within the classroom effort, the BTC has recently developed a lecture guide packet as a supplement to the *Boulder Training Model* manual (Rimell, et. al.). The packet contains outlines of all the training lectures in one concise booklet, which has reduced the amount of paper shuffling and waste which characterized earlier training weeks. As a supplement to the supplement, instructor Richard Nash developed a test on lecture material to be used in assessment of lecture deliveries and trainee retention of the material. In addition, the behavioral terminology pre- and post-tests have been upgraded to complement the increasing sophistication of trainees, and the data updating exercise modified to incorporate new data forms from the institution-wide Resident Information System.

The training center has also expanded its audio-visual instruction with the production of four humorous and informative video tapes. Two of the tapes deal with observing trainers in formal programs, and the other two involve behavior measurement and maladaptive behavior consequation. Initial reaction to the tapes has had the effect of increasing the schedule of reinforcement for the instructors during lectures.

Training in the Boulder Training Model is currently centered among the staff of Cottage 12. A few personnel from the Special Training for Exceptional People program in Billings, Montana, are also being currently trained in an effort to test the applicability of the Boulder Training Model in community group homes. The training of Cottage 12 will be followed by intervention in Cottage 15 and the Intensive Training Unit. Once these areas have been trained - completion is target for mid-July - the first round of training in the institution will be finished. The training staff is currently assessing the needs of the institution in order to determine what further training and follow-up are necessary.

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The Boulder Behaviorist is a periodic publication of the Habilitation Department at BRS&H. We invite interested individuals to submit articles describing the use of applied behavior analysis with developmentally disabled populations but do reserve the right to edit all material.

Midwestern Association of Behavior Analysis

The Midwestern Association of Behavior Analysis announces it's Fourth Annual Convention to be held at the Sheraton-Chicago Hotel in Chicago, May 13 - 16, 1978. MABA is an interdisciplinary group of professionals, paraprofessionals, and students who are interested in the experimental and/or applied analysis of behavior. The purpose of the Convention is to provide a forum for the presentation of papers, symposia and workshops concerned with aspects of behavior analysis. Included in the program will be invited addresses, conversation hours, and multi-media presentations. The Third Annual MABA Convention was successful in bringing together over 2500 persons interested in behavior analysis, and attendance for the Fourth Annual Convention is expected to be even greater.

For information on making a presentation, attending the 1978 Convention, or becoming a member of MABA, please write to:

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